



ANNUAL REPORT
OF THE
SARAWAK GOVERNMENT
MEDICAL DEPARTMENT
FOR THE YEAR
1922.

KUCHING.

PRINTED AND PUBLISHED AT THE GOVERNMENT PRINTING OFFICE.



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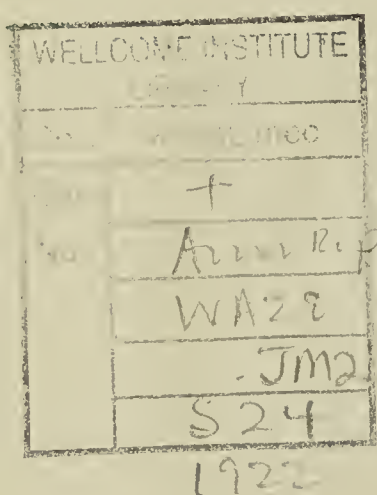
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SARAWAK GOVERNMENT MEDICAL DEPARTMENT.

Annual Report for 1922.

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1. Sarawak Government Medical Department.

The General health of the country has been undisturbed by any serious epidemic during the year. In October eight cases of small-pox were reported from Mukah by Dr. Majoribanks who went to the affected district in order to take control of the situation. All the cases and contacts were isolated and the necessary vaccinations carried out. No further cases occurred.

An epidemic of dengue fever began in Kuching during the month of July, affecting the bazaar communities and the majority of Europeans. At the end of the year a few sporadic cases only were noted.

Influenza, which may be regarded as endemic, occurred throughout the year in a very mild form. Among the native communities, tuberculosis and yaws command attention by their prevalence. With regard to tuberculosis, it will be noted that over 30 % of the deaths occurring during the year at the General Hospital Kuching were due to phthisis.

The treatment of yaws by injection of Novarsenobillon is increasing in its application, and it is anticipated that there will be considerable progress in this line during the year 1923.

The following is a summary of the injections given for yaws during the year.

Kuching	...	...	...	887
Sibu	...	...	...	164
Simanggang	...	...	...	432
Baram ...	...	...	...	152
Sadong	...	...	...	288
Bintulu	...	...	...	239
Bau ...	...	...	...	277
Mukah	...	...	...	34

2,473

Dr. Majoribanks has reported an alarming increase in the number of lepers in the 3rd Division. The matter has been referred to the Chief Health Officer who reports that the new leper camp on Satang Island will be ready to accommodate the individuals concerned in the early part of the new year.

The following three deaths occurred among members of the European community in Sarawak during the year :—

1. Kuching ... adult ... toxaemia following suprapubic cystotomy.
2. Miri ... Infant ... septicaemia following chicken-pox.
3. Sibu ... Infant ... inanition.

There are eleven births during the year of which one occurred at Kuching, one at Sibu, and the remainder at Miri.

2. The Staff.

The following appointments have been made during the year :—

Dr. J. G. Reed, M. R. C. S., L. R. C. P., to be Divisional Medical Officer, to date from 3rd June 1922.

Dr. E. M. Marjoribanks, L. R. C. P. & S. (Edin.), to be Divisional Medical Officer, to date from 29th August 1922.

Dr. E. J. O'Driscoll, M. B., B. Ch., B. D. O., N. U. I., D. P. H., P. T. M. & H. Eng., to be Lady Medical Officer and Pathologist, to date from 3rd June 1922.

Six new dressers, two partially trained and four apprentices, were taken on the strength during 1923.

Mr. Sim Poh was promoted to the rank of Assistant Surgeon at the end of the year.

His Highness the Rajah was pleased to grant me local leave at the beginning of September, from which I returned in November. During my absence, Dr. Reed acted as Principal Medical Officer. During the year I raised the question of a scheme for the establishing of a permanent senior medical staff, and in August I submitted such a scheme to His Highness the Rajah. It has become very clear to me that such a scheme—providing sufficient encouragement to induce medical officers to join the permanent service.—is a *sine qua non* of the future development of the Medical Department of Sarawak, and it is very sincerely hoped that this may be realized.

3. Buildings.

A bungalow has been erected in the grounds of the Grange Hospital which has served as quarters for Dr. O'Driscoll. Otherwise no additions or alterations have been effected in the departmental buildings in Kuching during the year.

The time has come, however, when it is necessary to abandon a number of the present buildings and erect new buildings of a modern and convenient type, for the following reasons :—

1. The present buildings are scattered over a large area which renders completely adequate control a matter of great inconvenience. An unnecessary duplication of staff and material is also entailed.

2. With the increase of staff and the development of the department, the accommodation is in many ways wholly insufficient. A larger laboratory is required, office room is limited, the stores are cramped, and the out-patient department is too small.

3. The present situation of the dispensary and out-patient department is regarded as unsuitable because of their proximity to the Government Offices and their conspicuous position.

4. A new General Hospital is urgently required. The present building is unsuitable because :—

(a) it is not large enough to accommodate the in-patients satisfactorily and the present site does not allow for expansion.

(b) it does not provide the means for separating and distinguishing between patients of different races and classes as thoroughly as is desirable.

(c) the present arrangement of large wards rather than a number of smaller wards has proved altogether unsuitable.

(d) dressing rooms and an operating theatre built in accordance with modern ideas are necessary.

(e) accommodation for the hospital staff is required.

In addition to the foregoing details, the following general considerations are of the utmost importance in estimating the requirements of the Medical Department.

Apart altogether from humanitarian principles, the economic value of an efficient medical department will be acknowledged by all who are conversant with the position which medicine should hold in modern States, and the greatest efforts should be made to encourage the native population to put their faith in occidental medicine science. But it is well known that great difficulty is often found in persuading Asiatics to avail themselves of European medical and especially hospital treatment. The solution of this problem, I believe, lies entirely in the creation of a proper atmosphere which will encourage patients to submit themselves to treatment. To any one who has had the good fortune to visit and observe the hospitals scattered throughout the Far East, nothing is more apparent than the essential part which is played by the air of efficiency, comfort, meticulous cleanliness and kindly care of a hospital, and the whole hearted enthusiasm and energetic optimism of the hospital staff, in persuading natives to enter hospital and undergo treatment as required.

Such objects cannot, I think, be attained until a new General Hospital well equipped and constructed on up-to-date lines is built and provided with an adequate staff of both sexes.

It need hardly be pointed out that the educative value of such a hospital among the patients is likely to be very pronounced, for the educability of the native, though an uncertain, is without doubt a positive factor.

5. The Grange Hospital has fulfilled all the requirements of a European Hospital during the past year. The question should be considered, however, whether it is not advisable to anticipate the needs of the rapidly growing community in Sarawak by building a modern hospital fitted with necessary conveniences and appliances rather than using an ordinary bungalow merely adopted for this purpose.

6. A new lunatic asylum with better accommodation than is at present available is necessary.

In view of the above considerations, it is suggested that very serious deliberation be given to the proposal that an entirely new hospital be built, consisting of separate parts for the accommodation of European, Eurasian and Asiatic patients, which though distinct, will yet be in sufficiently close affiliation for the purposes of administration. An area of land should be selected which will be large enough to provide for future expansion. In association with these buildings there would be required accommodation for offices, laboratories, out-patient department, dispensary and stores.

1. European Hospital Kuching.

During the year 26 patients were admitted into the Grange Hospital, one patient remaining at the end of year.

The following is a list of admissions :—

Malaria	...	...	...	7
Cellulitis *	...	...	...	2
Influenza	...	...	...	2
Dengue	...	...	...	1
Rubella	...	...	...	1
Amoebic Dysentery	...	...	...	1
Popliteal Abscess *	...	...	...	1
Delirium Tremens	...	...	...	1
Fractured Clavicle	...	...	...	1
Albuminuria	...	...	...	1
Prostatic Abscess	...	...	...	1
Epididymitis *	...	...	...	1
Confinement	...	...	...	1
Sciatica *	...	...	...	1
Inguinal Hernia *	...	...	...	1
Varicocele *	...	...	...	1
Tooth Extraction *	...	...	...	1
For Colpotomy *	...	...	...	1
				—
				26
				—

(**A.**, **B.**—Those cases marked * required operative treatment).

It may be noted that the cases of Malaria were all contracted outside Kuching.

Miss Tait—Matron-in-charge, was granted home leave from March 22nd to October 22nd, her place being taken by Mrs. D. O. Stennitt.

GENERAL HOSPITAL.

I append a report on the General Hospital for 1922 drawn up by Dr. J. G. Reed, together with statistics and a valuable note on the treatment which is at present being adopted for cases of Ankylostomiasis.

5. General Hospital Report for 1922.

A table of Comparative Statistics of the General Hospital for the years 1909—1922 is given. The figures are as complete and accurate as circumstances permit. It will be noticed that 1922 shows the lowest death rate and the largest number of operations. A slightly larger number of Malays, than in the previous year, have been admitted, but the majority of these have been from the Police or other Government Departments and there is little evidence of the Malays being willing to adopt European medical and surgical treatment.

Phthisis continues to head the list of causes of death. The vast majority of the cases come in a very advanced stage and little or nothing can be done for them. However, in one or two more suitable cases, good results are being obtained from courses of Sodium Morrhuate injections. A small sanatorium in an elevated position such as on the slope of Matang would be very desirable. This would both benefit the patients and would remove a potential source of infection from the Hospital enclosure.

Beri-beri has ceased to be a serious factor in the mortality lists.

It will be noticed that there have been a large number of dysentery cases; also that a large number of cases have developed in hospital. Though the matter has been carefully investigated no obvious cause for this has been discovered but it is suggested that a cement flooring should be laid down for a small area round the new *dapor*, which has only been used since last year. The value of early treatment is shown by the comparatively low death rate for dysentery, which is accounted for by the fact that all those cases which developed in the hospital received immediate Emetine treatment.

Yaws continue to be a very serious scourge. One Dyak has said to me that where he comes from (Samarahan) every Dyak has to have yaws, and in many districts I think that his statement is not far from the truth. I have given numerous injections of N. A. B. for yaws in the outstations of the 3rd Division and at Bau. At the latter place I gave over 250 in one week, patients coming in from all directions, including Kampong Staas near the Dutch boundary. I was careful to instruct patients with long established and severe lesions to come to hospital for further treatment and I also instructed Orang Kayas to send in other patients who had not been able to come to Bau. It is gratifying to note that many of these patients did come in, some of them again from as far as Kampong Staas, and are being treated in the Hospital.

A Preliminary Report on the use of Carbon Tetrachloride in Ankylostomiasis is appended.

Various minor improvements have been introduced. The Diet Scale has been revised and a light diet introduced. Some provision has been made for obtaining food suitable for Tamils and it is hoped to engage Tamil coolie who, amongst other duties, will cook for Tamil patients. A sufficiency of good mattresses and pillows have been obtained for suitable cases and some mosquito nets have been made. The Hospital has been wired and fitted for electric light. Needless to say it will be a great step forward when the Lighting Plant commences to be available, as at present the conditions for operating at night are very bad. It will also be possible to instal various forms of electrical apparatus.

A coolie has been engaged to wash the uniforms of the patients.

RETURNS FOR THE YEAR ENDING DECEMBER 31ST, 1922.

Number of patients remaining in Hospital January 1st, 1922	...	73
Do. admitted during the year	...	891
		<u>964</u>

Discharged cured or relieved.	Absconded.	Died.	Remaining.	Total.
735	45	66	117	964

Mortality per cent of total cases treated 6·84.

Tables showing headings under which patients were admitted during the year.

Charity account	...	533
Government account	...	375
Private	...	56
		<u>964</u>

Nationality of Patients treated:—

Chinese	...	591
Sea Dyaks	...	92
Land Dyaks	...	78
Tamils	...	85
Malays	...	68
Sikh	...	14
Sepoy	...	14
Javanese	...	10
Japanese	...	3
Milano	...	3
Philippino	...	3
Eurasian	...	2
Boyan	...	1
		<u>964</u>

DAILY SICK AVERAGE.

Daily sick average for year 80·57

Daily sick average per month:—

January	...	74·64
February	...	74·75
March	...	69·29
April	...	74·76
May	...	72·58
June	...	82·66
July	...	79·54
August	...	77·58
September	...	76·66
October	...	93·58
November	...	103·56
December	...	119·58

Largest number in Hospital on any one day	December 22nd	...	130	
Smallest do.	do.	May 13th	...	64

TABLE OF DISEASES.

The diseases worthy of note occurred as follows:—

1. Ac. Appendicitis	...	2
2. Ankylostomiasis	...	50
3. Aortic disease	...	7
4. Asthma	...	6
5. Beri-Beri	...	16
6. Carbuncle	...	6
7. Carcinoma of Pancreas	...	1
Do. Stomach	...	4
Do. Bladder	...	1
8. Cerebrospinal Meningitis	...	2
9. Cirrhosis of Liver	...	4
10. Dengue	...	16
11. Dysentery (Amœbic)	...	23
12. Elephantiasis	...	3
13. Epithelioma of Penis	...	1
Ext. Aud Meatus	...	1
14. Filarial Abscess	...	2
15. Gastric Ulcer	...	5
16. Gonorrhœal Urethritis	...	11
Do. Complications	...	25
17. Hcdgkin's Disease	...	1
18. Influenza	...	35
19. Inguinal Hernia	...	6
20. Leprosy	...	21
21. Malaria	...	47

Comparative Statistics of General Hospital for year 1909-1922.

Year.	Total No. of Cases.	R A C E S.			Average Daily Sick.	General Mortality %.	P H T H I S I S.			B E R I - B E R I.			D Y S E N T E R Y.			Operations performed.	R E M A R K S.
		Chinese.	Dyak.	Malay.			Total No.	Death.	Mortality %.	Total No.	Death.	Mortality %.	Total No.	Death.	Mortality %.		
1909	1,151	662	170	39	152	13.7	309	60	19.4	159	33	27.0	153	(1) Includes some without general anæsthetic.
1910	1,035	659	107	42	120	11.0	62	23	37.1	225	30	13.3	64	18	28.1	165	
1911	1,049	611	155	29	124	12.3	60	32	53.3	181	24	13.3	72	16	22.2	169	
1912	856	479	171	46	87	9.7	40	17	42.5	71	12	16.9	41	14	34.1	151	(2) Includes about sixty without general anæsthetic.
1913	906	594	109	46	96	12.7	48	21	43.8	125	11	8.8	51	13	25.5	124	
1914	947	653	75	47	120	11.9	39	21	53.8	127	11	8.7	53	16	30.2	116	
1915	782	517	114	22	89	13.0	47	26	55.3	74	8	10.8	39	11	28.2	58	Only deaths due to the actual disease mentioned without the supervention of other disease, are included, in the percentage lists.
1916	760	538	117	43	72	9.3	31	19	61.3	77	..	..	11	2	18.2	62
1917	919	629	148	40	98	14.6	31	24	77.4	134	18	13.4	28	11	39.3	102	
1918	891	581	124	52	96	12.8	50	28	56.0	56	5	8.9	33	9	27.3	56	(3) 22 cases developed in Hospital.
1919	—	—	—	—	—	No Annual Report issued				—	—	—	—	—	—	—	
1920	1,005	682	131	50	81	7.3	36	19	52.8	18	3	16.7	20	4	20.0	77	
1921	1,163	792	179	65	84	8.3	55	26	47.3	20	2	10.0	26	6	23.1	2481	
1922	964	591	170	68	80	6.9	39	18	46.2	13	1	7.7	43.03	5	11.6	2872	

PRELIMINARY NOTE ON THE USE OF CARBON TETRACHLORIDE AND CARBON TETRACHLORIDE IN COMBINATION WITH OIL OF CHENOPODIUM AS AN ANTHELMINTIC IN SARAWAK.

An article appeared in the British Medical Journal of July 1st 1922, reporting favourably on the use of Carbon Tetrachloride for hookworm infection. The drug also expelled *Oxyuris vermicularis* in large numbers and some *Trichuris trichuris* and *Ascaris Lumbricoides*. The drug acts as a moderate purge and it is not necessary to prepare the patients as for Thymol treatment. Oil of Chenopodium is soluble in Carbon Tetrachloride and a mixture of the two was suggested for Ascaris infection. Since then several other articles have appeared on the subjects. Treatment with the drug was commenced in the General Hospital, Kuching in August 1922, and the immediate results warranted its continuance. The drug has been given to eighty-two patients in the General Hospital. It has also been given to several school children and to one European. The results from the school children have been very good but they have not yet been tabulated as it is hoped to examine the faeces of all the school children in the near future and to give treatment to those who require it. The European patient showed no ova in his faeces after one dose of one drachm and during the six weeks following his treatment, he gained five pounds in weight.

The faeces of the majority of patients in the General Hospital, including all those who showed any signs of hookworm infection have been examined in the Pathological Department. The films have been made direct from the faeces; three slides have been examined before the specimen has been considered to be free from ova and, wherever possible, two such examinations have been made before the patient has been pronounced free from worms. Of course it is realised that such methods are not absolute, a fact which in a few cases has been demonstrated by post mortem examination.

The results of the treatment have been tabulated below. It has been found that Carbon Tetrachloride alone is a fairly efficient anthelmintic for Ascaris as well as for hookworms, but in combination with oil of Chenopodium it has a much higher efficiency and practically never fails. This combination is believed to be somewhat more effective than Carbon Tetrachloride alone for a pure hookworm infection also. Doses up to one drachm of Carbon Tetrachloride alone are being given to adults. Formerly 180 were frequently given, but cases that were resistant to one drachm were usually found to be equally resistant to the larger dose. The dose is given first thing in the morning before eating and no purge is given.

After trying various combinations the following standard treatment is given to adults for whom a mixture of Carbon Tetrachloride and oil of Chenopodium is indicated. One ounce of Castor Oil is given at night and the next morning a mixture containing one drachm of Carbon Tetrachloride, one cubic centimetre of oil of Chenopodium and half an ounce of Liquid Paraffin. As a rule the faeces are examined again a week to ten days after treatment and if necessary the treatment is repeated. The immediate effect on the patients does not seem to be any more marked when this mixture is used than when the Carbon Tetrachloride is given alone. Almost all the patients complain of feeling drunk for times varying from a few minutes to a day. As a rule three or four motions are produced in the twenty four hours following the treatment and these often contain numerous Ascaris. Occasionally slight vomiting, headache or pain in the abdomen occur.

The treatment has been given to Chinese, Dyaks, Tamils and one Japanese and the series of 84 cases contains one European and one Chinese schoolboy who were not in the General Hospital. Almost all the Dyaks examined have been found to harbour Ascaris and a large percentage, hookworms also. In spite of this fact, almost all the very heavily infected cases exhibiting extreme anaemia, oedema and debility occur in Chinese and no death from ankylostomiasis can be recollected among the Dyaks at the General Hospital. The Chinese also appear to be somewhat more resistant to treatment. The results as regards actual clinical improvement among the heavily infected Chinese have been somewhat disappointing. In several of these cases the stools have been reported free from ova after treatment and the patient has left the Hospital without oedema and feeling much stronger, though probably with still a high degree of anaemia, only to return shortly afterwards with oedema again, though the faeces still show no ova. Many cases had a weekly Haemoglobin test by the Tallquist method, but few showed a rapid or extensive rise. Many cases of this nature were heavy opium smokers. All cases were given Mist. Ferri Arsenicalis and many showed an immediate rapid and apparently permanent improvement in contrast to the type of case mentioned above. The drug appears to have little effect against *Trichocephalus dispar* and *Strongyloides stercoralis* and specimens containing ova or embryos of these worms only have been counted as negative.

The drug has been given to patients with fever from various causes and has also been given in conjunction with courses of Novarsenobillon and Emetine injections without ill results. In a few cases a full dose has been given on two alternate mornings. This causes no ill effects but did not apparently increase the anthelmintic power of the drug. The majority of the hookworms were of the species *Necator*.

The 84 cases have been divided into four groups.

Group (1) 35 cases who had two negative faeces examinations after treatment.

Group (2) 17 cases who had one negative faeces examination after treatment, a second examination not being made.

Group (3) 6 cases who died.

Group (4) 26 cases. These include cases who had several treatments and still showed ova in their faeces, and cases who absconded or left the hospital before treatment was completed.

Group (1) 15 cases harboured hookworms only; of these fifteen, 9 were cured by one dose of Carbon Tetrachloride, and 2 of these nine were heavily infected, 1 received 1½ cc. of oil of Chenopodium and 1 drachm of Carbon Tetrachloride in a mixture and the remaining 5 received two doses of Carbon Tetrachloride. Of these five one had previously received, in all, 180 grs. of Thymol, and another 180 grs. of Thymol and 2cc. of oil of Chenopodium, with practically no effect on the number of ova appearing in the stools.

13 cases harboured *Ascaris* and hookworms; of these thirteen, eleven were cured by one dose of a mixture of Carbon Tetrachloride and oil of Chenopodium, the eleven including one heavy hookworm and *Ascaris* infection, one heavy hookworm infection and two heavy *Ascaris* infection; one case heavily infected with hookworms and *Ascaris* received one dose of Carbon Tetrachloride and two courses of Santonin.

5 cases harboured *Ascaris* hookworms and *Trichocephalus dispar*. Of these five, all received one dose of a mixture of Carbon Tetrachloride and oil of Chenopodium, and one, one dose of Carbon Tetrachloride in addition.

1 case harboured *Ascaris*, hookworms, *Trichocephalus Dispar* and *Strongyloides stercoralis*; of the first two the infection was very heavy; she had two doses, with an interval of two days, of a mixture containing 1 cc. of oil of Chenopodium and m45 of Carbon Tetrachloride. She passed about thirty *Ascaris* in three days and afterwards showed only *Trichocephalus dispar* ova and *Strongyloides stercoralis* embryos in her faeces.

1 patient harboured hookworms and *Strongyloides stercoralis* and received one treatment of the mixture.

Group (2) 4 cases harboured hookworms only. Of these four, two cases received one dose of Carbon Tetrachloride and one dose of a mixture containing Carbon Tetrachloride and oil of Chenopodium; 1 case, received one dose of Carbon Tetrachloride only, and 1 case, a heavy infection, received one dose of the mixture only.

7 cases harboured hookworms and *Ascaris*. Of these seven, 2 received one dose of Carbon Tetrachloride alone. One of these was a heavy *Ascaris* infection and passed thirty eight *Ascaris*. 1 case received one dose of Carbon Tetrachloride supplemented by courses of Santonin and oil of Chenopodium. 1 case received one dose of Carbon Tetrachloride supplemented by courses of Santonin. 1 case, a heavy hookworm infection, received two doses of Carbon Tetrachloride and had previously received in all, 120 grs. of Thymol. 2 cases received two doses of Carbon Tetrachloride and oil of Chenopodium in a mixture, one case receiving one dose of Carbon Tetrachloride alone in addition. 1 case harboured hookworms, *trichocephalus dispar* and *Strongyloides stercoralis*, having a heavy infection of the first two. This case was a Japanese who showed an immediate, rapid and sustained improvement. He continued to come weekly to the Hospital for some time and his Haemoglobin index rose rapidly with his general improvement. He received m80 of Carbon Tetrachloride.

1 case harboured hookworms and *Trichocephalus dispar* and required two doses of m80 of Carbon Tetrachloride and three doses of mixture before giving a negative faeces examination.

3 cases harboured hookworms, *Ascaris* and *Trichocephalus dispar*. One received one dose of Carbon Tetrachloride and one Santonin Treatment. The other two, of whom one had a very heavy *Ascaris* infection, received one dose of mixture. 1 case harboured hookworms, *Ascaris* and *Strongyloides stercoralis*, having a heavy infection of *Ascaris*. He received two doses of mixture.

Group (3) Case 1. This patient a Chinese aged 54 was admitted on March 14th, 1922, with a heavy hookworm infection. He received in all 8cc. of oil of Chenopodium and 140 grains Thymol. Ova of hookworms were still reported very numerous. On September 1st, he received m60 of Carbon Tetrachloride; on September 8th, ova of hookworms and *Ascaris* were reported as scanty. On September 15th, he died, the autopsy revealing oedema of lungs and purulent bronchitis with numerous hookworms and *Trichocephalus* in the intestines.

Case 2. This patient, a Chinese aged 38, was admitted on August 14th, 1922, with a heavy hookworm infection and a mild *Ascaris* infection. He had marked ascites and cirrhosis of the liver. His abdomen was tapped ten times. He received three m60 doses of Carbon Tetrachloride after which scanty ova of hookworms and embryos of *Strongyloides stercoralis* were reported. On November 20th, he died, the autopsy revealing typical cirrhosis of the liver of the alcoholic type and a few hookworms in the small intestine.

Case 3. A female Chinese aged 26 was admitted on October 16th, 1922, with a heavy infection of hookworms and amoebic dysentery. Her Haemoglobin index by the Tallquist method was 30% and later fell to 10%. Her dysentery cleared up under emetine and she received three m60 doses of Carbon Tetrachloride after which on one occasion no ova were found in the faeces. She was intolerant of any form of control and frequently left the hospital and returned. On February 1st, 1923, she died with diarrhoea and ascites. At the post mortem examination about 20 hookworms were found in the small intestine.

Case 4. A Tamil aged 38 admitted November 13th, 1922. He harboured ankylostomiasis, *Ascaris* and *Trichocephalus dispar*. He received $\frac{1}{2}$ cc. of oil of Chenopodium with m60 of Carbon Tetrachloride. He then left the hospital and returned on December 25th, his faeces showed ova of *Trichocephalus dispar* and hookworms, both very scanty. On January 20th, 1923 he died. The autopsy showing pyopneumothorax. No worms were found in the intestines.

Case 5. A Chinese aged 34 admitted on November 22nd, 1922, with subtertian malaria and an infection of hookworms. His malaria responded to quinine treatment. and on November 29th, he received m80 of Carbon Tetrachloride. On December 5th, he became mentally deranged and later violent, so that he was removed from the hospital. On February 19th, 1923, he died of amoebic dysentery. His intestines were not examined for worms.

Case 6. A Chinese aged 64 admitted on December 7th, 1922, with epithelioma of the external auditory meatus. He also harboured hookworms, *Ascaris*, with which he was heavily infected, and *Trichocephalus dispar*. He was later found to be suffering from quartan malaria and developed amoebic dysentery. He received 1cc of oil of Chenopodium in a mixture with m45 of Carbon Tetrachloride; afterwards he showed no ova in his faeces. He died on December 27th, and at the autopsy about six ankylostomes were found in the small intestine and numerous *Trichocephalus dispar* in the large. There were no *Ascaris*. Macroscopically the heart and liver did not appear to be fatty.

Group (4) In this group 10 patients received only one dose, in 7 cases, of Carbon Tetrachloride alone and in the remaining three, of mixture. 4 of the ten cases did not have a second faeces examination made. 5 of the ten were heavily infected with hookworms, and heavily infected with *Ascaris* as well.

7 patients received two doses, 4 of the seven receiving the mixture on both occasions. 2 Carbon Tetrachloride alone on both occasions and one, the mixture on one occasion and Carbon Tetrachloride on the other.

5 patients received three doses.

2 patients received four doses. One of these two, a Chinese aged 69, between Oct. 27th, and December 15th, received one dose of m7 of oil of Chenopodium with m25 of Carbon Tetrachloride, one dose of m12 of oil of Chenopodium with m35 of Carbon Tetrachloride, and two doses of m80 of Carbon Tetrachloride. After the first three doses he showed no symptoms whatever of intolerance to the drug. Twenty-four hours after the fourth dose he woke up with a hemiparesis which has persisted. It is difficult to see how this could be attributed to the Carbon Tetrachloride.

1 patient received five doses. This case was a woman with a heavy hookworm infection and intense anaemia and oedema. She received the following doses between November 16th, and December 15th. (1) Carbon Tetrachloride m60. After this dose ova were reported as very scanty. (2) (3) & (4) oil of Chenopodium 1½cc with Carbon Tetrachloride m60. After the fourth dose ova were reported as numerous again. (5) Carbon Tetrachloride m60. After this dose the patient was discharged, very much better in every respect but still showing a few ova in her stools.

1 patient received six doses. This case, a hookworm and Ascaris infection received the following doses between November 1st, and January 22nd, (1) Oil of Chenopodium 1½cc with Carbon Tetrachloride m35. (2) and (3) Oil of Chenopodium 1½cc with Carbon Tetrachloride m60. (4) Carbon Tetrachloride m80. (5) & (6) Carbon Tetrachloride m60. After the fourth dose he was discharged much improved but returned three weeks later with hookworm ova still in his stools. Ova were still present after the sixth dose.

(Sgd.) J. G. REED.

6. The Pathological Department.

KUCHING, SARAWAK,
March 22nd, 1923.

The Principal Medical Officer,
Kuching.

SIR,

I have the honour to submit to you report on the work done in the Laboratory during six months ending December 1922.

Blood.	Faeces.	Urine.	Sputum.	Smears of Pus, etc.	Cerebrospinal Fluid.	Total.
269	473	80	67	155	5	1,049

Malarial Parasites 61, (Subtertian 13, Benign Tertian 34, Quartan 14), Dysentery (E. histolytica) 25.

<i>Ankylostome duodenale</i> ova	...	...	121
<i>Ascaris Lumbricoides</i> "	...	...	141
Gonococci in smears	...	...	19
Tubercle Bacilli	...	...	18
Leprosy "	...	...	3
Spirochaeta pertenuis (yaws)	...	...	6
Meningococcus in C. S. F.	...	...	2

All results are recorded in file kept in the Laboratory.

I took charge of the Laboratory on June 15th 1922.

The nature of the work has been chiefly examination of clinical material provided by the Hospital and by the out-patient departments. In addition a few specimens have been provided by the Police Authorities and a few hundred blood specimens have been examined re-filariasis. This latter examination will be the subject of a special report at a later date when more material has been examined.

The Laboratory Premises are at present a division of the P. M. O.'s Office. The situation is excellent as far as position, lighting, and water supply are concerned. The area of the Laboratory is roughly 20 ft. × 20 ft. The space is occupied to its limits at present, and lack of space will restrict the development of future work.

Again, the only entrance to the Laboratory is through the P. M. O.'s Office. This at times must be a matter of considerable inconvenience to the P. M. O. I venture to suggest that in the event of the P. M. O. finding another office, the whole area at present divided between the P. M. O.'s Office and Laboratory might be fitted up as a permanent Laboratory.

Owing to size of the Laboratory there is no possibility at the moment of doing Bacteriological work, or important examinations such as Wasserman Reactions. A quantity of material for this work has been obtained and is at present in Store, while more is under order. In June 1922 the Laboratory Equipment consisted of one Microscope and a quantity of stains and reagents. This has been added to considerably, a second microscope was obtained from the General Hospital, and a new microtome and appliances for section cutting from England, while further appliances are under order.

There is at present an Incubator in the Laboratory. It is of ancient design and is heated by paraffin oil lamp. For practical purposes it is useless. There is also a very primitive hand centrifuge which though useful for some purposes will have to be replaced at an early date.

With the introduction of Electricity in Kuching it will greatly simplify the making of a modern Laboratory to avail of electricity for lighting and motive power for centrifuge etc. At present no work is possible after 5. p. m. It will be necessary to provide for emergency work here at nights.

A special Laboratory Dresser was appointed to the Laboratory in October 1922. He has become an excellent worker and is capable of doing a large amount of the routine work.

A Museum has been started. Very interesting material is available from the General Hospital. About 30 specimens have been prepared to date and it is hoped to have a very representative collection of specimens in the near future.

Lectures in Elementary Pathology have been given to the hospital dressers once a week. Simple method of examination of blood and faeces re-parasites are explained. I suggest that there might be provision made to allow each dresser acquire a practical knowledge of microscope work, by allowing each man a month or six weeks work here in the Laboratory. Further I suggest that each outstation dresser be supplied with a microscope, and before appointment of a dresser to an outstation he should be required to pass an examination of his proficiency in laboratory work. Diagnosis is frequently impossible without the aid of the microscope, and this work would of necessity improve the standard of work done by the dressers. Any material collected in the outstations unidentified by dressers can be sent to Kuching for identification. For instance the accurate diagnosis of Malaria, Dysentery and other diseases which need prompt and suitable treatment must in many cases be conjectured without microscope aids, to the detriment of the patient.

A large number of cases of Hookworm disease have been met with in specimens sent here for examination. I suggest that a routine examination re-hookworm might be made of school children, Police and other members of the community here.

I have had an opportunity of treating a number of women and children both at clinics held in the Pavilion and in visiting sick people at their houses when necessary. I have also visited six Kampongs. In this respect the outstanding feature is lack of hospital accommodation. The present ward for women and children at the Hospital is very inadequate and is availed of chiefly by Tamils and poorer class Chinese.

Chinese patients in many cases are anxious for Hospital treatment, but refuse to go to the present hospital, while Malay patients are adverse to leaving their houses, and are willing for treatment in their houses.

In this respect the services of Nurse Bay have been invaluable to me. She is a capable nurse, and most energetic and willing and has done the nursing at patients' houses when necessary. Nurse Bay has at times considerably more work than is advisable for one nurse, and on occasions has had to leave the district to nurse patients at Sibu and Samarahan. Her absence left the district without a nurse. The services of a Chinese nurse, Nurse Julian Chan, are at present available, and I strongly advocate that she be appointed as a second Government Nurse.

The amount of work both in the Laboratory and Clinical way has increased steadily in the past few months and one must be prepared to make provision for a further increase in the future.

I have the honour to be,

Sir,

Your obedient servant,

ELIZABETH. J. O'DRISCOLL.

7. Lunatic Asylum.

Lunatics remaining in Asylum ending December 31st 1921	...	10
„ admitted during the year 1922	...	6
		<u>16</u>

Discharged.	Absconded.	Died.	Remaining.	Total.
6	1	1	8	16

Mortality per cent 6.25.

Nationality :—

Kheh	...	...	...	8
Sea Dyak	...	...	...	1
Hokkien	...	...	...	1
Hylam	...	...	...	2
Teochiew	...	...	...	2
Foochow	...	...	...	1
Malay	...	...	...	1
				<u>16</u>

Lunatic Daily Average Sick :—

January	...	...	...	8.87
February	...	...	...	8.75
March	...	...	...	9.00
April	...	...	...	9.00
May	...	...	...	8.06
June	...	...	...	8.00
July	...	...	...	8.16
August	...	...	...	8.29
September	...	...	...	8.00
October	...	...	...	8.00
November	...	...	...	8.00
December	...	...	...	8.00

Table of Diseases :—

Delusional Insanity	...	...	2
Dementia	...	...	2
Mania	9
Melancholia	2
Suicidal Mania	1
			<hr/> 16

Causes of Death :—

Chronic Diarrhoea	1
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8. The Sarawak Police.

Total number of cases treated during the year	1,287
Daily average sick	9
Recruits examined during the year	...	...	66

Nationalities :—

Race.	Male.	Female.	Children.
Malays	617	36	44
Dyaks	73	6	9
Sikhs	268	25	11
Sepoys	135	7	—
Chinese	36	—	6
European	3	—	—
Javanese	8	—	—
Melano	3	—	—
Totals	<hr/> 1,143	<hr/> 74	<hr/> 70

The diseases worthy of note occurred as follows :—

1. Amoebic Dysentery	...	...	21
2. Ankylostomiasis	...	...	2
3. Ascariasis	...	...	31
4. Beri-Beri	...	...	11
5. Conjunctivitis	...	...	43
6. Dengue	...	...	25
7. Gonorrhoea	...	...	3
8. Influenza	...	...	136
9. Malaria (B. T.)	...	...	5
10. Do. (S. T.)	...	...	7
11. Mumps	...	...	5
12. Phthisis	...	...	1
13. P. U. O.	...	...	86
14. Scabies	...	...	53
15. Tinea	...	...	12
16. Yaws	...	...	32

It will be observed that the total number of cases treated (1,287) compares very favourably with the number during the previous year (1,818).

9. Sarawak Rangers.

Total number of cases treated during the year	...	...	1,467
Average daily sick	...	...	15

Nationalities :—

European	...	...	9
Indian	...	...	39
Malay	...	...	174
Dyak	...	...	1,173
Philippino	...	...	47
Javanese	...	...	16
Chinese	...	...	9
			<hr/> 1,467

The total number shows an increase over that of the previous year (1,217).

The diseases worthy of note occurred as follows :—

1. Acute Catarrhal Conjunctivitis	...	...	66
2. Asthma	...	...	4
3. Bronchitis	...	...	21
4. Cerebro Spinal Meningitis	...	...	1
5. Dengue	...	...	17
6. Dysentery	...	...	11
7. Filariasis	...	...	4
8. Influenza	...	...	290
9. Malaria	...	...	6
10. Phthisis	...	...	1
11. Pneumonia	...	...	4
12. P. U. O.	...	...	162
13. Rubella	...	...	22
14. Scabies	...	...	79

10. Sarawak Jail.

Total number of patients treated during the year	...	...	589
Discharged cured.	Sentence expired.	Died.	Remaining.
552	13	5	19
			589

Nationalities :—

Heng Wha	...	...	4
Land Dyaks	...	...	19
Sea Dyaks	...	...	49
Hylam	...	...	21
Kheh	...	...	266
Teochew	...	...	25
Hokkien	...	...	67
Cantonese	...	...	14
Liew Chew	...	...	18
Tamil	...	...	9
Indian	...	...	6
Javanese	...	...	6
Melano	...	...	3
Banjar	...	...	1
Malay	...	...	81

Causes of Death :—

1. Perforated appendix.
2. Retropharyngeal Abscess.
3. Perforation of descending colon.
4. Gastric Ulcer.
5. Phthisis.

There was no judicial execution during the year.

11. The Outpatient Department.

Total number of cases treated during the year	...	...	5,410
Daily average sick	...	...	27.66
Recruits examined—Sarawak Rangers	...	...	85
„ „ Prison Warders	...	...	1
„ „ Fire Brigade	...	...	6

Nationality :—

Arab	...	...	1
Burgher	...	...	8
Chinese	...	...	1,013
Cingalese	...	...	1
Dyaks	...	...	456
Europeans	...	...	243
Eurasians	...	...	82
Japanese	...	...	8
Javanese	...	...	4
Melano	...	...	5
Malays	...	...	2,523
Phillipino	...	...	4
Tamils and other Indians	...	...	1,062
			5,410

TABLE SHOWING THE NUMBER OF PATIENTS FROM EACH DEPARTMENT
AND OUTSTATIONS DURING THE YEAR 1922.

Astana and Astana Farm	...	33	Offices Forest	...	105
Brooke Dock	...	12	„ Resident's	...	63
Charity	...	725	„ Municipal	...	174
„ Govt. Lay School	...	72	„ Post, Shipping & Customs	...	77
„ Kg. Java School	...	109	„ Printing	...	105
„ R. C. School	...	42	„ Registration	...	77
„ St. Mary's School	...	6	„ Treasury	...	79
„ St. Thomas' School	...	75	„ Weight and Measure	...	5
„ Convent	...	7	Outstation	...	33
Clubs	...	3	Prison	...	57
Courts, Datu	...	53	Private	...	248
„ Debts	...	35	Public Health Office	...	2
„ Police	...	98	Public Works Dept.	...	1,502
Estate—Matang	...	2	Railway	...	69
Fort	...	62	Roads	...	41
Land and Survey Dept.	...	679	Store	...	8
S. Library	...	8	Telephone and Wireless	...	139
Medical	...	154	Govt. Wharf	...	1
Mission S. P. G.	...	51	Workshop	...	165
Museum	...	11	Water Works	...	85
Naval	...	101	Rest House	...	5
Offices Audit	...	12			
„ Exemption Tax	...	20			
				Total	5,410

OUTPATIENT DEPARTMENT.

Table of Diseases.

Albuminuria	...	...	2	Gonorrhoeal Arthritis	...	1
Abscess	...	...	17	Hemiplegia	...	1
Acne	...	...	2	Haemorrhoids	...	11
Adenitis	...	...	5	Heart disease	...	5
Ankylostomiasis	...	...	55	Hysteria	...	3
Ascariasis	...	...	212	Influenza	...	325
Asthma	...	...	30	Insomnia	...	1
Beri-Beri	...	...	23	Laryngitis	...	3
Bronchitis	...	...	55	Malaria, Benign Tertian	...	48
Bronch-Pneumonia	...	...	3	„ Sub-Tertian	...	16
Boils and Carbuncles	...	...	20	„ Double-Tertian	...	3
Burns and Scalds	...	...	9	„ Quartan	...	11
Bursitis	...	...	1	„ Chronic	...	26
Chicken-pox	...	...	1	Morbilli	...	5
Cellulitis	...	...	17	Rubella	...	4
Carcinoma of Breast	...	...	1	Neuralgia	...	12
Contusions and Wounds	...	...	112	Neurasthenia	...	2
Cystitis	...	...	2	Nephritis	...	1
Dengue	...	...	30	Nose—Epistaxis	...	2
Diarrhoea	...	...	163	„ Hypertrophic Rhinitis	...	4
Dogbite	...	...	2	„ Nasal Polypi	...	3
Dyspepsia	...	...	137	„ Ozaena	...	1
Dysentery, Amoebic	...	...	52	Pericarditis	...	2
Emphysema, lungs	...	...	2	Pharyngitis	...	10
Erysipelas	...	...	1	Phthisis	...	14
Eczema	...	...	40	Pneumonia	...	2
Ear—Otitis Media	...	...	11	Phosphaturia	...	3
„ „ Externa	...	...	3	Rodent ulcer	...	1
Eye—Conjunctivitis acute	...	...	...	Ruptured Urethra	...	1
„ Catarrhal	...	...	123	Myalgia	...	83
„ Traumatic	...	...	3	Rangas Poison	...	2
„ Gonorrh.	...	...	3	Scabies	...	116
„ Corneal ulcer	...	...	4	Septicaemia	...	1
„ Keratitis	...	...	1	Sciatica	...	2
„ Blepharitis	...	...	1	Scorpion bite	...	1
„ Entropion	...	...	3	Sprain	...	181
„ Pterygium	...	...	3	Stomatitis	...	17
„ Trachoma	...	...	1	Syphilis	...	23
„ Styte	...	...	2	Stricture of Urethra	...	1
„ Hyperkeratosis	...	...	1	Tonsillitis	...	8
„ Foreign body	...	...	1	Teeth—Pyorrhoea	...	2
Fevers, unclassified	...	...	313	„ Tooth caries	...	14
Gastritis, acute	...	...	1	„ „ extraction	...	4
Gastro-enteritis	...	...	2	Ulcers	...	281
Gastric ulcer	...	...	1	Whooping Cough	...	1
Gastralgia	...	...	1	Yaws	...	636
Gout	...	...	1	„ Crab	...	46
Filariasis	...	...	2	Other Ailments	...	1,988
Gonorrhoea acute	...	...	1			
„ chronic	...	...	6			
				Total		5,410

12. Education.

During the year, dressers in Kuching have received, as regularly as possible, six lectures a week. They are also given practical instruction daily at the General Hospital, and are required to attend post-mortem examinations at which demonstrations are given.

Dressers are also attached for a period of three months during their course of training to the dispensary where they receive instruction in practical dispensing. Arrangements are being made for a similar apprenticeship to the Pathological Laboratory where, under the supervision of Dr. O'Driscoll, each dresser may receive a thorough training in laboratory methods of diagnosis.

So far as has been practicable, the original plan of interchanging dressers between Outstations and Kuching every six months has been carried out in order to avoid any possibility of mental stagnation. This scheme, however, will work more automatically as soon as the present apprentice dressers have reached the standard qualifying them for outstation work.

13. Pauper Hospital.

Paupers remaining in P. Hospital ending December 31st, 1921	...	73		
„ admitted during the year 1922	... ..	48		
Transferred to G. H.	Absconded.	Died.	Remaining.	Total.
14	12	11	84	121

Mortality per cent 9.09.

Nationality :—

Hylam	...	...	...	10
Kheb	...	...	...	33
Teochiew	...	...	...	22
Liewchiew	...	...	...	21
Cantonese	...	...	...	12
Hokkien	...	...	...	12
Hockchiew	...	...	...	3
Kowchiew	...	...	...	7
Chiawan	...	...	...	1
				121

Pauper Daily Average number of Inmates :—

January	...	...	70.35
February	...	...	72.17
March	...	...	74.67
April	...	...	77.33
May	...	...	81.29
June	...	...	74.00
July	...	...	76.38
August	...	...	78.77
September	...	...	76.13
October	...	...	78.87
November	...	...	86.13
December	...	...	83.00

14. Outstations.

A. 1st DIVISION.

Sadong.—During the year 283 patients were admitted to the local hospital for treatment. Of these two were transferred to the General Hospital, Kuching, one absconded, four died and eleven remained in hospital at the end of the year.

The details of nationality are as follows :—

Malay.	Chinese.	Tamil.	Dyak.	Total.
23	228	29	3	283

The four fatalities were due to :—

1. Ch. Bronchitis.
2. Pneumonia.
3. Chronic Amoebic Dysentery.
4. Beri-Beri.

288 cases of Yaws received injections of Novarsenobillon. One patient collapsed and died suddenly a few minutes after injection. The report indicates that the patient—an adult—was suffering from marked anaemia.

B. 2nd DIVISION.

Simanggang.—During the year, 144 in-patients were treated at the local hospital. Of these, six were sent to Kuching for treatment, two absconded, one died and one remained in hospital at the end of the year.

The nationality of the patients was as follows :—

Malay.	Chinese.	Dyak.	Tamil.	Total.
49	42	52	1	144

Cause of death :—

1. Cardiac failure.

The number of out-patients treated amounted to 2,144, their nationality being :—

Malay.	Chinese.	Dyak.	European.	Eurasian.	Indian.	Tamil.	Melano.	Total.
536	483	1,077	31	9	3	3	2	2,144

Of these, it is noted that yaws accounted for 567, malaria 56 and tinea imbricata 49.

C. 3rd DIVISION.

Sibu.—I am indebted to Dr. Marjoribanks, D. M. O. 3rd Division for a report on the 3rd Division for 1922, extracts from which I append herewith.

1. Hospital Staff, Sibu.

At the beginning of the year this consisted of Dresser Ah Hong, and an assistant dresser Hok Keng. The latter resigned, and was replaced on the 23rd February by assistant dresser Yok Sian. Ah Heng was in charge till the first week in August, when he was transferred to Kuching and in his place dresser H. C. Thadd was appointed. The new dresser had left the British North Borneo Company to join the Sarawak Government Service. The Divisional Medical Officer newly appointed from England arrived in Sibu on the 4th September and took over charge of the 3rd Division.

2. Hospital Accommodation.

As the new hospital is in the process of construction it is hardly necessary to amplify the report on the present building; it suffices to say that there is an inadequacy of room space, largely due to the fact that there are only two wards available, and this does not cater for separation of cases as regards nationality or disease. Some slight alterations have been undertaken, namely, a part of the operation room was partitioned into an office for the Divisional Medical Officer, the wood, planks etc. being taken from the smaller of the two wards, which was thus increased in size and rendered more roomy and airy.

The only additional furniture was a large writing table for the use of the Subordinate Staff.

New quarters were erected, and were ready for the senior dresser early in November: they are quite close to the hospital.

3. Revenue and Expenditure.

The total expenditure which included all payments through the Sibü Treasury, the pay and travelling allowances of the Medical Staff, the value of drugs received from Kuching amounted to ... \$6,951.56

The total revenue was derived as follows:—

Cash sales, and Port Health Certificates ... 859.00

The value of drugs expended on Government Departments 2,080.25

This left a Debit balance of:— ... \$3,612.31

4. Out-Patients.

Those totalled for the year 3,007, the average nationality of the various cases being Chinese 40%, Malays 22%, Dyaks and Tamils 11%, each.

The most important cases being:—Malaria 89, Dysentery 27, Hookworm 9, Beri-Beri 9, Phthisis 21, Leprosy 12, Gonorrhoea 45, Syphilis 14, Eye diseases 41.

5. In-Patients.

There are no records of any in-patients being admitted to this hospital up till the end of July, but after this date there were 104 admissions. The average nationality being Chinese 35%, Dyaks 30%, Malays and Tamils each 14%.

5. Deaths.

Only two occurred in the hospital, one to due Rupture Urethra with extravasation of urine, and other from Cerebral Malaria.

6. Operations.

The opportunity for Surgical work is not as yet extensive. A number of operations were performed, but they were of the minor variety with a few exceptions.

7. Cases of Special Interest.

Yaws.—164 cases were treated during the year in Sibü, Kanowit, Kapit and Rejang. Of these 90 were Muli (Crab yaws.) The proportion at adults and children was equal, but the incidence seemed to preponderate with males.

The disease was largely confined to Malays and Dyaks; among the Chinese it is rare.

In some instances the reaction after the N. A. B. injection was severe, this was seldom the case with children. One individual, a Chinaman, was worthy of note; the first injection had no curative effect whatsoever, but a month later of a second injection he was completely cured.

Syphilis.—14 cases were observed and of these 9 were systematically injected and treated with the usual excellent results.

Leprosy.—12 cases have been under treatment with the Ol. Chaulmoogra system. It is to be regretted that the results were not very satisfactory. The tubercular forms resolved to the injections most rapidly and successfully, while the anaesthetic types, except for amelioration of symptoms, showed but little improvement.

8. General Health Report on the Town of Sibü.

Geographically situated as Sibü is with its swamps, its exposure to fogs and floods, its congested bazaar, it is remarkable that the return for the year should show an absence of an epidemic, and a very small incidence of such diseases as malaria, dysentery and hookworm.

The European community, with the exception of minor ailments due to climatic and seasonal changes, enjoyed good health. The same might be said on the native population, though the prevalence of Phthisis among the Chinese is deplorable. The completion of the Water Works which are to be in use next year will I am sure confer a further benefit on the town.

No. 9. District Work.

Rejang.—This town was visited by the Divisional Medical Officer in December. The Officer-in-charge has taken in hand the levelling and draining the grounds and lands around and adjoining the Government buildings and premises. Sporadic cases of malaria, dysentery, hookworm and yaws occur, but on the whole the health report is good. Towards the end of the year, there appeared a slight epidemic of Dengue fever.

Matu and Daro come under this area; they present a somewhat different proposition, and it is intended, in the next year, that a yaws, hookworm and vaccination campaign be commenced there.

Kanowit.—I have no hesitation in saying that the amount of disease prevalent is out of all proportion to the size of the town and its surrounding. Yaws, Korap (Tinea Imbricata) and leprosy abound; the last mentioned disease is exceedingly common in the neighbourhood of the Kanowit river, and is surely and steadily spreading.

The R. C. Mission station here is a very large one, and is in constant need of medical attention. It would be advantageous to have a permanent dresser for this area.

Kapit.—Except for the periodic incidence of Benign Tertian malaria, there is but little sickness in the town itself. At the time of my visits most of the cases, yaws and leprosy, were from the outlying Dyak Houses, previous notice of a date for injections having been arranged.

The precincts of the Fort and police barracks are being redrained and when this is completed the rangers and prisoners should keep better health.

Bintulu.—I superintended the work of the new dresser during my visit at the end of October. He was tidy and painstaking and was skilfully dealing with the large number of cases of yaws which were arriving for treatment.

There was a slight epidemic of measles during the month of October and November.

Mukah, Oya, and Dalat.—The health of Mukah has been satisfactory. An epidemic of small-pox occurred in October; it was of a modified type and soon terminated after the usual measures were adopted viz: vaccination of contacts, disinfection and segregation.

The hub of Oya is Dalat. This is unknown quantity and is reported to be teeming with possibilities.

The R. C. Mission here helps in distributing simple medicines to the sick; it is intended early next year that wider supervision and investigation be carried out.

Concluding Remarks.—I, as Divisional Medical Officer, wish to express my indebtedness to the Resident 3rd Division, whose consideration and willing co-operation have been of inestimable assistance to me, both, as regards my itinerary, as well as in the developmental phase of this department.

(Sgd.) E. M. MARJORIBANKS,
Divisional Medical Officer,
3rd Division.

D. 4th DIVISION.

Miri.—To Dr. Foster-Smith, Senior Medical Officer of the Sarawak Oilfields Ltd., I am indebted for the following details. The health of the Europeans generally was better on the whole than in the previous year.

Among members of the Government Service, besides one case of Chronic Malaria there were no cases of importance.

Among European Employees of the Sarawak Oilfields Ltd., forty-five or about 40% of the total average strength were off duty for short periods with malaria, many of these had two or more attacks.

In most cases the malignant tertian parasite was found in the blood; in a few, however, the infection was of the benign form.

Wives and children suffered similarly, especially at Lutong where few escaped at least one attack.

The disease of next importance was dysentery, though this also showed a decline on the year. Most of the cases were of the Amoebic form.

Four repatriations were necessary during the year, two for cases of Renal Colic, one for Chronic Dysentery and one for Malaria.

One death and nine births were recorded during the year.

Asiatic Government Patients.

Attendances as out-patients during the year show a total of 900; admissions to hospital numbered 121. Of these the great proportion were prisoners, who had been coolies and former employees of the Sarawak Oilfields Ltd.

Asiatic Company Employees.

During the year 41,000 attendances were made at out-patients at the various stations maintained by the Company, and 2,035 patients were admitted to the hospital at Miri.

Malaria and fevers were responsible for 1,225 of these admissions, Surgical conditions for 436 and other Medical conditions for the remainder. There were 68 deaths of the Company's employees during this period and a detailed statement is appended.

During the year 46 operations were performed under general anaesthesia, nearly all being of the nature of emergency surgery.

Injections for Yaws.

Until September 1922, the record of injections of Novarsenobillon, Kharsivan etc., does not always state whether the remedy was administered for Yaws or Syphilis, but approximately 170 injections were made during the year.

LIST OF ADMISSIONS TO EUROPEAN HOSPITAL, MIRI, DURING 1922.

Malaria ...	...	...	...	10
Dysentery ...	...	...	...	5
Renal Colic ...	...	...	...	2
Endometritis ...	...	...	...	2
Confinement ...	...	...	...	6
Alcoholism ...	...	...	...	1
Enteric Fever ...	...	...	...	1
Chicken-pox ...	...	...	...	1
Septic Foot ...	...	...	...	1
Dental Treatment ...	...	...	...	1
Enteritis ...	...	...	...	2

Return of Deaths among Asiatic patients. Miri, for year 1922 :—

Abscess Lung ...	...	...	1
Acute Nephritis ...	...	...	2
Acute Pancreatitis ...	...	...	1
Alcoholic Poisoning ...	...	...	1
Ascites ...	...	...	1
Beri-Beri ...	...	...	5
Dysentery ...	...	...	10
Heart Failure ...	...	...	1
Leprosy ...	...	...	1
Malaria ...	...	...	35
Peritonitis ...	...	...	2
Rupture of Spleen ...	...	...	1
Secondary Anaemia ...	...	...	1
Septicaemia ...	...	...	1
Suicide (hanging) ...	...	...	1
Tuberculosis ...	...	...	3
Valvular Disease of heart ...	...	...	1
Total			68

Comparative table of Deaths 1918—1922 :—

1918.	1919.	1920.	1921.	1922.
17	30	23	73	68

Baram.—A dispensary and hospital were established at this Station at the beginning of the year, and the dresser-in-charge arrived on June 20th. Since the opening up of the hospital, 464 patients have received treatment there, of which 34 were admitted as in-patients. 152 cases of yaws have received injections of Novarsenobillon, and 225 children have been successfully vaccinated.

A small outbreak of Malaria among the police and prisoners was reported in August, but with the adoption of prophylactic measures this was stopped.

It is hoped that an expedition may be arranged to visit up-river natives with a view to utilising the funds kindly given by Professor Harrison Smith for the provision of free treatment to the Baram population.

15. Financial Statement.

I append herewith a general statement of the Expenditure and Revenue of the Medical Department for the year 1922.

MEDICAL DEPARTMENT.

Revenue and Expenditure 1922.

EXPENDITURE.				REVENUE.	
Dispensary—				Dispensary—	
Cost of Drugs, Surgical		\$	c.	Sales of Medicines etc.	\$ c.
Instruments etc., purchased ..	..	21,678.50		General Hospital—	
Establishment .. ..	..	6,769.08		Charges on private a/c ..	1,249.23
Miscellaneous .. ..	..	1,487.46	29,935.04	Grange Hospital—	
Management—				Charges on private a/c ..	1,290.34
Establishment .. ..	..	21,842.76	24,532.46		
Miscellaneous .. ..	..	2,639.70			
Grange Hospital—			6,138.37		
Establishment .. ..	..	3,843.30			
Miscellaneous .. ..	..	2,295.07			
General Hospital—			18,236.83		
Establishment .. ..	..	9,419.11			
Miscellaneous .. ..	..	8,817.72			
Pauper Hospital—			3,645.53		
Establishment .. ..	..	144.00			
Miscellaneous .. ..	..	3,501.53			
Lunatic Asylum—			2,632.03		
Establishment .. ..	..	864.46			
Miscellaneous .. ..	..	1,767.57			
			\$85,120.26		\$8,040.46

Further details are as follows :—

DISPENSARY.

Medicines etc. supplied to various Govt. Departments, Kuching ...	\$20,210.39
Medicines etc. supplied to Outstations ...	10,344.98

GENERAL HOSPITAL.

Hospital Charges on Govt. Account ...	5,803.55
“ “ “ Charity “ ...	11,086.50

W. E. LE GROS CLARK,
Principal Medical Officer,
Sarawak.

